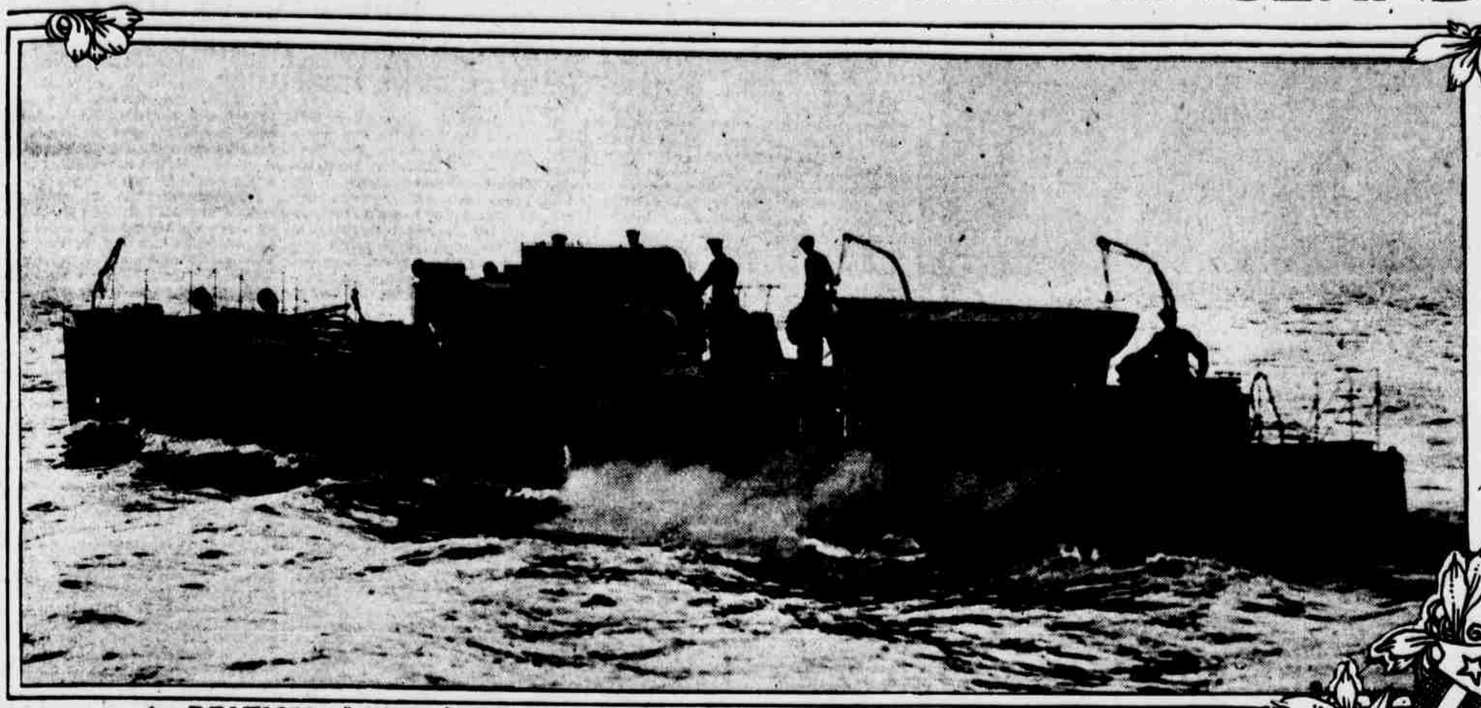
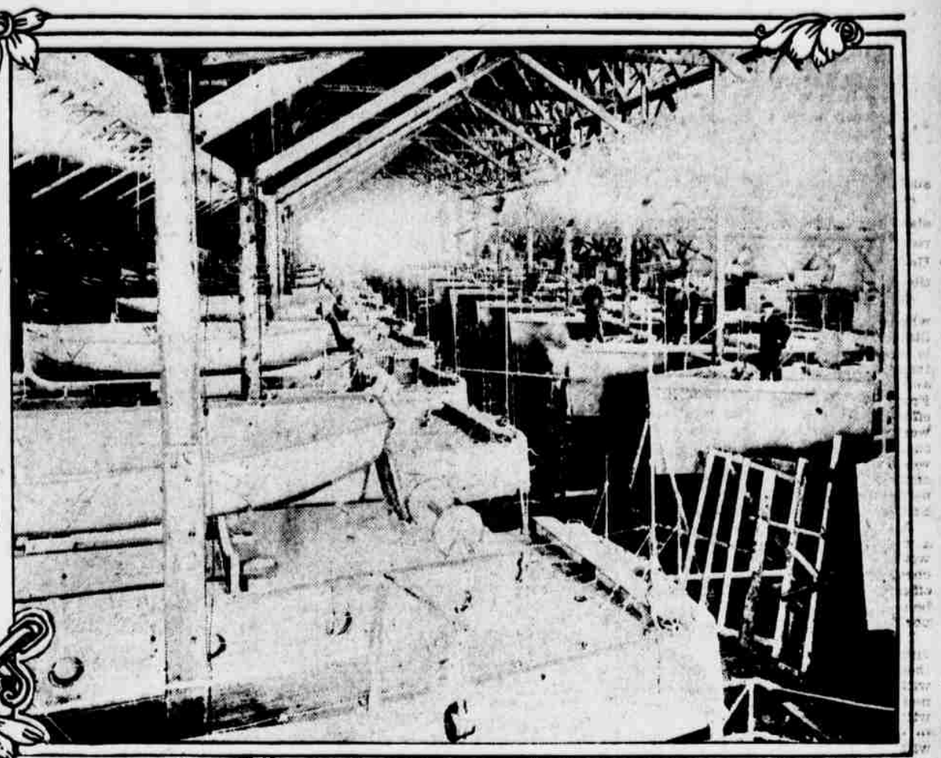
YANKEE CUNNING SHOWED ENGLAND WAY TO FIGHT U-BOATS



A BRITISH "M.L." GOING OUT ON PATROL. THE BRITISH ADMIRALTY'S ANSWER TO THE NEW GERMAN SUBMARINE BLOCKADE IS 550 OF THESE "SEA WASPS" BUILT BY AMERICAN FIRMS IN 550 DAYS.



INTERIOR OF A "SUBMARINE CHASER" FACTORY. STANDARDIZATION IS THE SECRET OF THIS MANUFACTURING FEAT

"SUBMARINE CHASERS" READY FOR SHIPMENT

Hundreds of Submarine Chasers of American Design Turned Out at the Rate of One a Day

Factory Methods Used to Build a Fleet of Swift Motor Boats—Lesson for Uncle Sam

By H. THOMPSON RICH.

ENGLAND has found a way to combat the German U-boat menace and she owes it to America, to Uncle Sam's inventive and constructive genius.

For some time insistent rumors of a strange new addition to Britain's navy have been heard, rumors of a type of boat so small yet so deadly to subsea raiders that the Kaiser's latest campaign of frightfulness was doomed to failure from the start. These rumors have at last been confirmed. England is known to have at least 550 of these newest of naval weapons.

Picture a long low craft, 80 feet from stem to stern, with a beam of 12½ feet and a speed of 19 knots per hour, with a draught of only 4½ feet and a displacement of but 30 tons, yet with sea keeping qualities that have never before been equalled by so small a craft. Picture a mosquito fleet of these "sea wasps," hundreds of them, keeping up their vigil day and night, in search of a Teuton submarine's betraying conning tower and periscope. Picture the crew, ten men to a boat, seeking hour after hour and day after day for the sight of an undersea raider so that England's vast merchant fleet may do commerce with America unhampered, that the citizens of the British Isles may know no pang of the hunger the German Chancellor von Bethmann-Hollweg would bring down upon them.

Each of these little vessels mounts a 3 inch rapid fire gun forward, a gun that hurls twelve pound shells at the rate of twenty a minute. And it only takes a single straight aimed missile to send one of Kaiser Wilhelm's sea dachshunds whining to the bottom. Since the beginning of the war England has accounted for between 260 and 300 hostile submarines, and these submarine chasers, the latest addition to his Majesty's grand fleet, have checked off more than their share.

The sea keeping qualities of these little giants cannot be overestimated. During one great Channel storm two of these tiny boats patrolled the raging waters ceaselessly for forty-eight hours, encountering mountainous seas and winds that blew hurricanes, yet both put safely back to port, unsuccessful in their quest, in good shape. Not a plank was started. Not a stay was loose. Not a drop of water was in their bilge holds. And during that same storm larger and supposedly more seaworthy craft found their way to the slimy ooze and sticky chalk of the Channel bottom.

A feature of these boats that makes them specially adapted to seeking out and destroying submarines is their extremely light draught. A torpedo fired from a submarine, or, for that matter, from a battleship or a torpedo boat destroyer, generally travels from 16 to 18 feet below the surface. This of course is to enable the explosive charge to reach the vulnerable part of the warship, its prey, as battleships have heavy armor extending 10 feet below the surface. Therefore this submarine chaser, drawing only 4½ feet of water, is immune from the danger of being torpedoed.

True, a torpedo may be regulated to swim at any distance below the surface; but when the distance is less than 10 feet it is apt to jump out of the water and become unmanageable, since it travels at a high speed. Torpedoes fired to keep 6 feet or so below the surface have been known to turn completely around and boomerang back to the vessel that discharged them. This, in the case of a German war torpedo loaded with 500 pounds of extremely irritable gun cotton, would be nerve racking experience for the most coldblooded German U-boat crew. Therefore the "sea wasps" need have no fear of torpedoes, but may approach to within 100 feet of a hostile submarine and deliver the contents of their deadly guns into its very entrails.

The only fear these little motor launches have is of a direct hit by enemy gunfire, and such a thing is extremely improbable; because a submarine has to be completely out of the water before she can mount her guns for action; and in 99 cases out of 100 she would be submerged. All you would see would be a tall, tapering tube (her periscope) and a miniature, rippling wake. This manifestation of the genus U-boat is all any good English "sea wasp" captain wants. It is easy to plug a submarine when you can see her battle eye. All you have to do is to aim the gun and open fire. At the rate of twenty shots per minute from a 3 inch gun the rest is a matter that need not require much imagination.

The Central Powers have staked everything on a single throw—unlimited submarine activity, regardless of life, law or humanity. They have taken a gambler's chance. The German Chancellor said as much in the Reichstag. They have staked everything, and they have lost, even though the first eighteen days of their desperate effort have cost allied and neutral shipping nearly one hundred ships, with a tonnage of nearly 200,000 tons.

They have failed, not because their thoroughness, their efficiency was at fault. They spared no pains to gain success. But they have failed because other nations have used their brains. Had England stood still and trusted to Providence and the Fleet Germany might well have won her last, most frightful throw. But England did not stand still.

Even so long ago as a year before the sinking of the Lusitania she had already taken a step against just such an eventuality. The step I refer to is her placing of an order for fifty of these submarine chasers with an American firm, the Submarine Boat Corporation of Providence, R. I.; Bayonne, N. J., and elsewhere.

These boats are essentially American. Evolved from successful pleasure boat models known for their speed and seaworthiness the world over, their success in their new field has even exceeded the wildest hopes of the motoar boat enthusiast. I say motor boat, for they are motor boats. They burn gasolene, not oil, as do their enemies, the submarines. Each one of them houses a power plant delivering 500 horse-power. This power plant consists of two very efficient gasolene engines of 250 horse-power each. These engines represent the very highest type of motor boat engines in the world. They are the result of years of patient and exacting experimentation.

When the British first launched these 550 chasers against Germany's droves of submarines some people said: "Why didn't you make them more powerful?" They seemed to think that nineteen knots was slow speed. They wanted thirty, forty, fifty miles per hour. They had been reading in the newspapers about the wonderful speed of American racing boats. But the English engineers quickly explained, and the performances of the little boats backed them up. Greater speed could only be given at a sacrifice of gun power and seaworthiness.

Boats of this type can be made to run at amazing speed. But such boats are mere shells—tin cans with a cyclone inside them. They can perform their wonderful feats only on the still waters of some river or bay.

The British knew what they wanted. So did America. And they got it. Britain the boats and America the honor.

The idea of the submarine chaser originated with Henry R. Sutphen, vice-president of the Elco Company of Bayonne, N. J., a branch of the Submarine Boat Corporation. I called on Mr. Sutphen the other day. He told me that he had been designing motor boats chiefly of the pleasure type for over twenty years when in the spring of 1915 the idea entered his head: Why not design a motor boat similar to the successful pleasure type, give it a reasonable speed, make it thoroughly seaworthy, mount a substantial gun on it and send it out to fight submarines? Thus was a revolutionary adaption developed.

Shortly after this an English engineer visiting this country in the interests of his Government asked Mr. Sutphen if he could build such boats in large numbers. They talked the matter over with Irwin Chase, a naval architect in the company's employ. The result was that the Elco Company began preparing estimates for fifty submarine chasers.

The estimates were completed, submitted to the British Government and immediately accepted; whereupon the Elco Company found itself with a wonderful opportunity before it. These boats were to be delivered within one year and were to test out a minimum of 19 knots each.

Hundreds of problems presented themselves. Where was the material to come from? Where were the boats to be made? Where was the labor to be obtained? Would it be possible to fulfil the contract in time?

But Mr. Sutphen and Mr. Chase did not worry. They had taken all these matters and a whole lot more into consideration when they submitted their estimates and they had reduced the whole problem to one word—standardization.

This is the way they went about it. They built a single boat according to plans. Then they took this boat as a model and proceeded to turn out fifty counterparts of each one of its parts. This single boat contained 500,000 separate and distinct pieces. Think of the proposition of turning out 25,000,000 parts! It meant the organization of a force of laborers, the gathering together of great quantities of timber, the assembling of hundreds of carloads of material.

The first thing they did was to erect a plant up on the shore of Levis, Canada, opposite Quebec. There they blasted a foundation in the solid rock and erected a factory, covering thirty acres. They then proceeded to mobilize 12,000 workmen, mostly French Canadians, with a few American laborers interspersed to add ginger to the work. Then they began looking about for material. The problems that presented themselves at this point were very trying.

For instance, from 8,000,000 to 10,000,000 feet of oak timber was required for hull construction. (It had been decided to build the boats of wood instead of steel for reasons of seaworthiness.) The Elco company got experts and set them to searching for this lumber. They found that there was an enormous quantity of oak to be had provided one knew where to go for it. From a single mill in Virginia came 4,000,000 feet of the best quality fine, hard oak.

Then there was the problem of metal, not so much steel—very little steel was used in the construction of these boats—but bronze—bronze for rudders and stanchions and staples. After a search all over Canada and the United States the requisite metal, moulded in the requisite shapes, was obtained.

These were merely problems of getting together the raw material. When once the material had been gathered together even greater problems presented themselves—problems of specialization, of concentration. Special sections or gangs of men were formed to lay decks, others to hammer down interior planking, others to put together the engines, to adjust the brass fittings, &c. In all fifty specialized, distinct gangs were employed.

Perhaps the greatest problem was that of getting these boats safely to England. Remember they were eighty feet long. A steamer could accommodate only four at a time. So you can see that the problem was no slight one. Moreover each boat had to be given an exacting individual trial.

Yet in spite of all difficulties the boats were delivered safe and sound to the English Government in eight months, or four months before the allotted time limit of one year expired. Moreover every single one of them exceeded nineteen knots in speed. These boats cost the British Government $40,000 apiece, the contract representing in all $2,000,000.

But here is the point: Before any of these boats had been delivered to the British Government Germany had sent the Lusitania to the bottom and revealed conclusively to the world her menace. England saw with clear vision the part that submarines were to play in the months to come. She sensed the value of the submarine chaser and on faith alone she turned to the Submarine Boat Corporation, builders of fifty "sea wasps" she had never even seen, and placed her order for 500 more of precisely the same craft, to be delivered by the fall of 1916. This represented a contract of $20,000,000.

The builders of the first fifty accepted this order without a tremor, realizing full well that they stood face to face with a proposition altogether new. Previously to this boats had been built. But to turn out 500 in less than seven months meant that they must be manufactured, not built. It meant absolute 100 per cent. standardization.

Already trained by the fifty boats they had just completed, they set about erecting new factories, mobilizing new armies of men and gathering together new trainloads and boatloads of material. I will not go further into the details of this achievement. The result sums it all up as no words could do. They turned out these additional 500 boats at the rate of three boats a day and fulfilled the contract with time to spare, making the total time for the entire 550 just 550 days. This terrific speed was the result of knowing just exactly what was needed, knowing just exactly where it was needed and knowing just exactly how to put it there with the utmost rapidity—in other words, standardization.

Mr. Sutphen, who designed and built these 550 boats in 550 days, was in Washington last week and had a long conference with the Navy Department in regard to submarine chasers, which the Government contemplates building in large numbers for our protection.

The general opinion among motor boat experts who have studied the conditions under which submarine chasers must work is that actual experience in warfare has definitely determined that the Elco type of boat is the best type for the severe weather of the English Channel and the North Sea. It is the stanchness of these vessels that makes them so effective for the service for which they were intended.

At the request of the Navy Department Mr. Sutphen has supplied it with full details of the plans and specifications for the 80 foot submarine chasers which he designed for the British Admiralty. It is understood that the Department intends immediately to prepare plans and specifications for the type of submarine chaser which would be best suited to American waters. The Navy Department will use Mr. Sutphen's plans and specifications as a basis in developing the new type.

Recent advices from England say that all the 550 motor boats are in service and are giving excellent results. A boat is expected to remain at sea ten days at a time and accommodations are provided for a crew of a dozen men, with all necessary equipment.

How many submarines have already been accounted for by the British no one can ascertain for a certainty; but the number is between 260 and 300. Allied shipping refuses to worry. England is in no fear of starvation. She has found a way to fight the German U-boats. Uncle Sam has showed her one way.

SOCIETY OF DISGRUNTLED WIVES FORMED TO STUDY MAN'S WAYS

"LO, HEN!"

"'Lo, Sofe! Coming to the meeting to-night?"

"Uh, huh. Got my topic, too [voice lowered here]. Mumble - mumble - mum - on the carpet - umble - mum [voice still lower] b zz-mble-bzz—and I said—bzz-um-bzz [almost inaudible now] mmm-zzz—shocking language—mmzz."

Go to the Sign of the Cerise Teapot, visit the Little Box Up the Alley, hie to the Gilded Lily. In any one of those bunks and brays of bonnie Greenwich you can hear some such mystic murmurings these days.

Red lips forsake their Yeabo cigarettes to press against coral ears hung with bobbed and revolutionary hair. Sandaled feet hurry from one red, green and orange basement to another purple, yellow and pink cellar, their owners aflutter with great tidings. From Fourteenth street to Sheridan Square, from Waverley place to Patchin forsaken palettes stare pathetically up at blank canvases. There is something new under the Greenwich Village sun and only the women are in on it.

The women and one or two of those select masculine souls that have that, oh, so rare sympathy common enough among those dear Russians, to be sure, but all too seldom found among the coarse, money grabbing barbarians (Greenwich Village pleasantry meaning American men). And of course the aforesaid masculine sympathizers are as yet unmated.

One sees the absolute necessity of that, doesn't one, as soon as one learns what all this furore is about? It would really never do, would it, to let a married man in on the fact that the very latest group movement in the Village is known as The Disgruntled Wives and holds regular semi-monthly meetings somewhere on Fifth avenue not so far from the Arch? So that it's rather plain, isn't it, that if the reader is a married man with one drop of sympathy in his veins he will instantly throw away this article and let it lie where it falls?

It's all so very, very new and so very, very difficult for a coarse money grabbing barbarian to get hold of this new movement; one means that one is forced to pick up what one may in the highways and byways and mews and courts. One may only open doors here and there, to put it as beautifully as one may, and peep in. One may not always go through to the full wonder of the things that lie beyond.

So, for example, one opens a door upon Aloysius J. Ragan, high priest, as it were, in the temple of Vesta. Though on second thought the allusion is not apt. Mr. Ragan, to be a Peter Bell about him, is janitor of the apartment where The Disgruntled Wives have their meetings, and he is nothing more.

Mr. Ragan had heard of The Disgruntled Wives, but he preferred, for reasons of his own, to say nothing about them whatever.

"To be sure they have meetings, young feller," continues Mr. Ragan, "and what is it, then, to you? Perhaps your wife——"

But Mr. Ragan, eventually led from the subtleties of satire to the more commonplace paths of direct discourse, develops a kindlier side to his nature. Drawing his interviewer close to him he mutters hoarsely:

"What is it, do you think, they do at them there meetings?"

Mr. Ragan, it seems, is not asking a rhetorical question. He is leading up to a disclosure not to be made, however, without many cautious glances up the hall and an even closer juxtaposition to the eager ear of the interviewer.

"They laughs," exclaims Mr. Ragan at length when assured that the hall is a desert. "Laughs and hollers. That's what they do. Do you know what I think they're up to? Cooking sumpin' up," here Mr. Ragan, indignation flashing from his eye, becomes well nigh vindictive, "cooking sumpin' up—that's what I say."

Mr. Ragan now lapses into moody silence, which he breaks with startling effect by almost shouting: "But they won't get my old woman to none of their meetings. Not if I know it, they won't. I'd just like to see them get Norah. Disgruntled Wives, indeed," and there follows an interval of gloomy mutterings.

It is evident that this door has been open long enough. One hastens to close it on the sight of stricken manhood.

But out on the street one finds Mr. Ragan plucking at one's elbow.

"If I was you, young feller, I'd be mighty careful about what I printed in the paper about this here business. Might get married yourself some day, and suppose your wife read about this society. The Disgruntled Wives, she might be coming down here to their meetings. How can you tell? Suppose, just for instance, my Norah should chance to read about it——"

The next door opens on the studio of one who, as they say in the books that tell you all about the inside workings of the diplomats, shall, "for the purposes of this narrative," be called Paul. It was not so long ago that Paul was greeted with welcoming hands wherever the sacred fires of art were being tended. With unabashed feet he wandered about the altar steps, received as peer by the elect.

But Paul to-day is Alcibiades for the Village. He has profaned the images. He has taken a regular job where they have a time clock and gets down at 9 o'clock! So now it is only the chance whisper of a friend who, despite himself, still cherishes for Paul a bit of the old sentiment that comes to Paul's exiled ears.

But Paul had heard of the Disgruntled Wives. Did any one know what they did? Paul asked this with an air of indifference that to one fresh from the anxious Mr. Ragan seemed just a trifle studied.

Paul had heard, though indirectly, mind you, that they were planning something at those meetings. Couldn't say what, exactly, but Paul understood that something was in the wind. Had any one been seen who had been at any of the meetings? Wouldn't talk, eh? Hmm. Pretty delicate subject to handle in print, wasn't it?

Now suppose some woman who hadn't heard of it, say Mrs. Paul just for example—of course, no reason why she should have any interest in such doings, but just suppose that she should get hold of it and decided to join. That would be the dickens of a note, wouldn't it?" said Paul as the door was sadly but firmly closed upon his craven form.

Mr. Ragan, Paul, the innate caution of the male. Dead Sea fruit there for one hungry for good, ripe plums. And then, like the sight of an orchard to those lost in the wilderness—the Professor!

"The Disgruntled Wives," said the Professor, "why doesn't every one knows all about them? Very interesting movement. One in line with the best thought on feminism.

"I'm speaking to them every now and then. Give them a few pointers, though really, young man, they're the most intelligent women I've ever come into contact with.

"Brilliant almost, though great talkers, great talkers. Talk about everything, positively everything, with the wisest air of knowing all about it, having said the very last thing that can be said about any topic. And when I say everything, I mean just that. Really——"

The Professor coughed here and gazed meditatively out of his study window for a moment before he went on.

"They have topics, you know. They've divided up all their—shall we call them grievances?—it's a weak word—into headings and subheadings. Quite scientific. Take anecdotes, for example.

"They had a most spirited meeting on this topic. More or less on the lines of an old fashioned experience meeting, though I wouldn't wish to be understood as implying that there was anything religious about it, unless of course you regard any deep, emotional outburst as religious. But where were we? Hmm. Yes, anecdotes.

"Well, they discussed the male as an anecdotal creature. Every woman there made her contribution. They began with anecdotes of his boyhood. The statistician was busy putting down estimates as to weekly averages. One woman there who dines out a great deal gave her estimate as twenty-seven times a week on one anecdote alone.

"The theme of the anecdote was a slender one at that, something about a fight with another boy, in which this woman's husband was victor. But the speaker was so vehement, frequently interrupting her remarks to state quite bitterly that she had laughed aloud at each and every repetition of the anecdote, that I am afraid the amazing weekly total must be influenced by an unscientific impulse to exaggeration.

"I should have explained, by the way," said the Professor, "that this anecdote heading held over for two meetings because all the members were anxious to participate. One whole afternoon was given up to anecdotes of his boyhood and the following meeting to anecdotes of his college days.

"The topic really seemed inexhaustible. The second subhead was discussed with fully as much vigor and spirit as the first. It was remarkable how many of the anecdotes followed similar lines. The manner in which the husband in question prepared a crib that got him successfully through his Latin examination came up again and again in the course of the discussion, as did the anecdote of the party at 'The Widow's' or 'Morey's' or whatever the particular tavern happened to be called at which good old Jack Hobson got so awfully full and broke all the windows so that the cops were called in.

"One woman in the back of the room broke down while the speaker was narrating this anecdote with the statement that her husband had told this at least once a week for the ten years of their married life and was taken out of the room sobbing, 'I know every horrid word of it by heart.'"

At the recollection of this distressing scene the Professor was compelled to pause for a moment, but after wiping the moisture from his pince-nez he continued.

"They have also discussed 'His Views,' 'His Views on Art' for instance, took up an afternoon not wholly devoid of interest. One speaker struck a popular note when she said that come what might she could no longer go to galleries with him.

"His superior attitude while contemplating a canvas that no one in the world could possibly understand was intolerable, she said. But that of course is a more or less localized ailment, of no interest to the general public. I am simply giving you general ideas.

"'Singing' is another subject that they have covered quite thoroughly, beginning, most appropriately, I might say, with 'Songs in the Tub.' At first I was somewhat put to it to discover just why singing should be included among the many indictments. Surely, I thought, singing is inoffensive enough, a sign of good health and high spirits in any one, male or female. But now I think I have it.

"It is not singing as such that is objected to. It is rather those elaborations called, vulgarly, 'swipes.' I heard many women testify with tears in their eyes to the number of times such charming melodies as 'The Road to Mandalay' and 'I've Been Working on the Railroad' have been done to death before their very ears, so to speak, by husbands with a tendency to swipes.

"Of course all this is just preliminary to the great constructive work that The Disgruntled Wives will take up later on. It is diagnosis now, with no attempt at present to effect a cure. We must have our tabulated figures first. We must discover the principal causes for disgruntlement before we can hope to wipe them out.

"Then I shall begin my real work. It will be most interesting. I can promise you that. It is the psychological aspect of the thing that engages me. And now I come to the point that I have been anxious to arrive at for some time.

"Under the circumstances don't you think it wiser to refrain from publishing anything about this at the present? It might upset things. My wife, for example. I haven't thought it wise to tell her anything about The Disgruntled Wives. It's absurd of course to think for one moment that she might want to attend any of their meetings. But there's always a possibility that she might go, not as an active member but as an onlooker—women are so curious."